



DEER CREEK MINE
DIVISION OF OIL, GAS AND MINING

February 28, 2002

Utah Coal Regulatory Program
Division of Oil, Gas and Mining
1594 North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

McComing
C/015/018
Copy Done IBC01K-1

Re: Volume 11 - North Rilda Lease, PacifiCorp, Deer Creek Mine, C/015/018-IBC01K,
Emery County, Utah

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West") as mine operator, herewith submits a revised Deer Creek MRP - Volume 11: Introduction Section, General Section (R645-301-100), Engineering Section (R645-301-500) and Hydrologic Section R645-301-700), in response to concerns raised during the Federal Coal Lease U-06039 Lease Modification - Incidental Boundary Change review. Enclosed are four redlined copies for review (one copy has been directly sent to the Price Field Office).

The following is a summary of the revisions:

INTRODUCTION SECTION

⇒ Replace entire text section
Revised to reflect current conditions

R645-301-100 GENERAL

⇒ Replace entire text section
Revised to reflect current conditions and
reduce duplicate right-of-entry information

R645-301-500 ENGINEERING

⇒ Replace entire text section
Revised to reflect current conditions and
IBC deficiencies
⇒ Replace Appendix 1 Map DU1688E
(sheets 1 of 2 and 2 of 2)
Revised to reflect current conditions

R645-301-700 HYDROLOGY

⇒ Replace entire text section
Revised to reflect current conditions and
IBC deficiencies
⇒ Replace maps HM-9, HM-10
Revised to reflect current conditions
⇒ Remove Map HM-11 (combined with
HM-10)

Huntington Office:
(801) 687-9821
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Deer Creek Mine:
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Cottonwood Mine:
(801) 748-2319
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DOGM

Volume 11: North Rilda Area Amendment

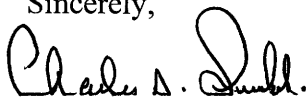
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Page Two

The attached document attempts to answer the third round of deficiencies in the order they were received. The Division's findings will be first listed by regulation and explanation. PacifiCorp will follow by a response in *italics*.

If there are any questions or concerns please call.

Sincerely,



Charles A. Semborski

Geology and Environmental Supervisor

enclosures:

cc: Carl Pollastro (without enclosures)
File

Response to Technical Analysis Deficiencies

Deer Creek Mine

IBC C/015/018-IBC01K

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Page 1

The following responses to deficiencies are formatted as found in the technical analysis document. They are broken down into logical section headings similar to the R645 regulations. In each section, the regulation number along with the associated deficiency is followed by the permittee's italicized response.

R645-301-114, Update the Right-of-Entry information to show the lease modification dated December 14, 2001 and the correct permit acreage.

Right-of-Entry and permit acreage information will be addressed in a separate amendment submitted February 28, 2002.

R645-301-525.100 and R645-301-121.200, The Permittee must state in the subsidence section of the MRP that no subsidence is anticipated as a result of mining in the IBC.

Volume 11: North Rilda Area, Engineering Section has been revised to state:

R645-301-522 COAL RECOVERY

Mine Plan:

Page 12: *Mill Fork State Lease ML-48258 Access: Based on data acquired through surface coal exploration programs, Energy West developed a mine plan to access the Mill Fork State Lease with a set of 5-entry mains driven on a northwest bearing from the 6th North Mains. Mining within the Mill Fork Access corridor will be restricted to mainline development. To ensure long term stability, pillars will not be removed (refer to Volume 5 Map 3-7).*

Page 15: (4) **Surface and Sub-Surface Resource Protective Barriers:**
(b) *In-place coal will be left within the Mill Fork Access area to ensure the long-term stability and integrity.*

Mining Methods and Subsidence

Page 31: *First Mining, "No Subsidence Restricted" Areas*

1) Right Fork of Rilda Canyon

First mining, (i.e. mainline development), has occurred below the Right Fork of Rilda Canyon. For a complete analysis of the proposed "no subsidence / long term stability" design of the 5th North Mains development within the Right Fork of Rilda

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Canyon and the long-term stability analysis refer to the Engineering Section R645-301-500 Appendix 1.

2) Mill Fork Access

Access to the to North Rilda Hiawatha seam reserves was achieved with the development of rock slopes and vertical shafts from the Blind Canyon seam to the lower seam. From the bottom of the slopes, a 5-entry set of mains (referred to as 6th North Mains) were developed to the northeast for access to gateroad development in the Hiawatha seam. Main line development was reduced to three entries above 6th Right.

Based on data acquired through surface coal exploration programs, Energy West developed a mine plan to access the Mill Fork State Lease with a set of 5-entry mains driven on a northwest bearing from the 6th North Mains. Mining within the Mill Fork Access corridor will be restricted to mainline development. To ensure long term stability, pillars will not be removed (refer to Volume 5 Map 3-7).

R645-301-724, 731 and R645-301-525.700, The Permittee should describe any groundwater association between the graben faults and Little Bear Spring, and provide notice to the Emery County Water Users to allow them to monitor the flow from Little Bear Spring prior to and during mining of the IBC.

Volume 11: North Rilda Area, Hydrology Section (Page 94-99) has been revised to state:

728. *PROBABLE HYDROLOGIC CONSEQUENCES (PHC) DETERMINATION
(R645-301-728)*

Hydrologic Balance - Groundwater

Mining within the North Rilda area will have negligible impact on the regional hydrologic balance, but there could be some possible local impact. This section discusses the possible mining-related impact on the hydrologic balance due to:

- A. Subsidence - Perched Aquifer Systems,*
- B. Mining in the Rilda Canyon Area - NEWUA Springs, and*
- C. Interception of Groundwater by Mine Workings*
- D. Mining Below the Right Fork of Rilda Canyon*
- E. Mill Fork State Lease ML-48258 Access (Hiawatha Seam)*

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E. MILL FORK STATE LEASE ML-48258 ACCESS (HIAWATHA SEAM)

Mill Fork State Lease ML-48258 Access: Based on data acquired through surface coal exploration programs, Energy West developed a mine plan to access the Mill Fork State Lease with a set of 5-entry mains driven on a northwest bearing from the 6th North Mains. Mining within the Mill Fork Access corridor will be restricted to mainline development. To ensure long term stability, pillars will not be removed.

As stated earlier, in Structural Hydrologic Features, a fault system referred to as the Mill Fork Canyon Graben is projected to intersect the western portion of Federal Coal Lease U-06039 (refer to map HM-9). The Mill Fork Canyon Graben was intersected and crossed to the north of the North Rilda Area permit extension in the Beaver Creek No. 4 Mine and consisted of series of faults with a total displacement of approximately thirty (30) feet. PacifiCorp has conducted extensive exploration programs to delineate the Mill Fork Graben including a series of close spaced drill holes in the Right Fork of Rilda Canyon. Drilling was conducted on approximately 250 foot centers across the projected Mill Fork Graben from previously completed drill holes EM-158 and EM-56. No structural discontinuities were identified during drilling. Groundwater encountered during drilling was restricted to minor quantities from the alluvial/colluvial fill (estimated at 2 - 5 GPM) near the alluvial/bedrock interface. Based on the results of the 1997 surface exploration conducted in the Right Fork of Rilda Canyon, a meeting was held in October 1997 with DOGM, USFS, and BLM to discuss the re-location of the 4/5th North intersection to maximize the overburden at the Right Fork stream crossing. The 5th North Mains were re-located approximately 800 feet west of the original projection, increasing the overburden from 120 to approximately 200 feet. In reviewing the exploration data and in-mine information from the development of the 5th North Mains, it appears that the eastern fault of the Mill Fork Graben diminishes to the south from where it was intercepted in the Beaver Creek No. 4 Mine located north of Mill Fork Canyon (refer to map HM-9).

Hydrologic studies conducted in association with the coal leasing to the north and northwest of the North Rilda Area identified the Mill Fork Graben as a potential source of recharge for the Little Bear Spring. PacifiCorp participated in these studies and provided funding for the second phase.

Little Bear Spring is a large spring (average flow of approximately 300 gpm) which issues from the lowest member of the Star Point Sandstone (Panther Member) located approximately two miles to the northeast of the North Rilda Area in Section 9, Township 16 South, Range 7 East. The spring was developed in 1960 by Huntington City and is currently maintained by Castle Valley Special Service District (CVSSD). Little Bear Spring provides sixty five (65) percent of the culinary water for the cities of Huntington, Cleveland and Elmo.

Response to Technical Analysis Deficiencies

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As stated in the Mill Fork Environmental Assessment (EA) completed in 1997, Little Bear Spring flows continuously, with average monthly discharge ranging from two hundred (200) to four hundred forty (440) gpm (CVSSD, 1997). Flow varies seasonally, with a typical increase of twenty (20) to forty (40) percent in response to spring runoff. The lowest average monthly baseflow recently measured was one hundred ninety eight (198) gpm in April 1995. Isotopic analyses performed to evaluate the age of water indicated that the spring discharges modern water, and is similar in composition to water in both Crandall and Huntington Creeks (Mayo and Associates, 1997). Further chemical analyses show that water from Little Bear Spring is very similar to surface water in both Little Bear and Huntington Creeks. Water quality in the spring is good, requiring only chlorine treatment before it is suitable for consumptive use.

Based on previous reports and field observations, the spring emanates from western fault of the Mill Fork graben. The graben is approximately one thousand (1,000) feet wide and trends from the southwest to the northeast at approximately north thirty (30) degrees east. Much of the geologic and hydrologic detail concerning the fault system was derived from the mining history of the Beaver Creek #4 Mine located in Mill Fork Canyon. Mining in the #4 Mine encountered the eastern fault (down thrown approximately thirty (30) feet on the west) of a small graben as entries were driven northwest from the portals in Mill Fork Canyon. Rock slopes were developed through the fault system down to the coal seam level. Mining proceeded across the graben to the western up thrown fault (up thrown approximately twenty nine (29) feet on the west). A second set of rock slopes were developed to access coal reserves to the west of the graben. Coal reserves diminished rapidly to the west and the mine was eventually closed and reclaimed. Mining across and within the graben encountered only minor quantities of groundwater and flow of Little Bear Spring was not impacted.

The potential source of recharge for the graben system identified in these studies was Mill Fork Canyon. Water flowing down Mill Fork Canyon enters the alluvial system above/near the southern trace of the graben and provides recharge to the fault systems associated with Little Bear Spring.

Physically, the North Rilda Area (including the Mill Fork State Coal Lease Access) is separated from Little Bear Spring by Mill Fork Canyon. As indicated above, the Mill Fork Canyon Graben was intersected and crossed to the north of the North Rilda Area in the Beaver Creek # 4 Mine. The mine was a relatively dry mine with only few isolated roof drippers associated with the Mill Fork Fault system and Little Bear Spring was not impacted due to mining.

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The potential for mining activities in the North Rilda Area (including the Mill Fork State Coal Lease ML-48258 Access) to impact Little Bear Spring is believed to be minimal for several reasons;

- 1) Little Bear Spring is located two miles north of the North Rilda Area,*
- 2) there is a physical barrier between the North Rilda Area and Little Bear Spring - Mill Fork Canyon,*
- 3) exploration data and in-mine information from the development of the 5th North Mains, indicates that the displacement associated with the Mill Fork Graben diminishes to the south from where it was intercepted in the Beaver Creek No. 4 Mine located north of Mill Fork Canyon,*
- 4) mining within the Mill Fork State Coal Lease access will be restricted to development mining only (no subsidence is projected),*
- 5) mining in the Mill Fork State Coal Lease access will be within the Hiawatha coal seam which is located approximately two hundred feet stratigraphically above the source of the Little Bear Spring,*
- 6) mining north the North Rilda Area (Beaver Creek #4 Mine) which intercepted and penetrated the Mill Fork Graben (identified as a potential source of groundwater recharge) did not impact the flow of Little Bear Spring.*

Little Bear Spring Mitigation:

If mining intersects faulting related to the Mill Fork Graben during development, permanent seals will be installed to control unusual or atypical groundwater if present. PacifiCorp will utilize a pressure grout system to limit groundwater infiltration. In addition, PacifiCorp will monitor groundwater as detailed in the following section; R645-301-731.200: Water Monitoring: Groundwater B: In-Mine.

Provide notice to the Emery County Water Users to allow them to monitor the flow from Little Bear Spring prior to and during mining of the IBC.

PacifiCorp actively participates with the Emery Water Users; North Emery Water User Association, Castle Valley Special Service District, Huntington Cleveland Irrigation Company, Emery Conservancy District and the Cottonwood Irrigation Company, concerning hydrologic issues related to coal mining within the region. Involvement includes; updating the water users of mining development, climatology data, sharing hydrologic monitoring data and development of mitigation alternatives if necessary. Currently, Castle Valley Special Service District (CVSSD) continually monitors groundwater production from the Little Bear Spring system to develop hydrologic trends and to identify potential impacts associated with coal mining.

Response to Technical Analysis Deficiencies

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R645-301-724, The permittee should discuss alternative water source information in the event there are any changes to Little Bear Spring from mining through the Mill Creek (*Fork*) Graben.

Volume 11: North Rilda Area, Hydrology Section: 728. PROBABLE HYDROLOGIC CONSEQUENCES (PHC) DETERMINATION (R645-301-728) has been revised to include detailed information related to the Mill Fork State Coal Access and commitments minimizing potential groundwater impacts. Volume 11 includes water replacement in Section R645-301-731.800 which addresses "water determined to have been lost or adversely affected as a result of applicant's mining operations if such loss or adverse impact occurs prior to final bond release. The water will be replaced from an alternate source in sufficient quantity and quality to maintain the current and post-mining land uses".

In addition, PacifiCorp along with GENWAL RESOURCES INC., have agreed in terms with CVSSD to a mitigation plan for Little Bear Springs as it relates to coal mining in the Mill Fork State Lease (ML-48258) and the GENWAL's proposed Lease-By-Application (LBA U-78593). This agreement will be included in the Mill Fork Lease Application.

APPLICATION FOR PERMIT PROCESSING

Permit Change ☒New Permit ☐Renewal ☐Transfer ☐Exploration ☐Bond Release ☐

Permit Number: C/015/018

Title of Proposal: Revised Volume 11: North Rilda Area: Introduction, General Section ,
Engineering Section, Hydrologic Section, PacifiCorp, Deer Creek Mine, C/015/018: IB01K, Emery County, Utah

Mine: DEER CREEK

Permittee: PACIFICORP

Description, include reason for application and timing required to implement: Reclamation plan for the 9th East portals in Grimes Wash. Permittee intends to reclaim portals during fall of 1999. Need plan reviewed within 30 days. Volume 11 North Rilda Area has been revised to address deficiencies related to Permit Area Change (65.7 acres) - IB01K

Instructions: If you answer yes to any of the first 8 questions (gray), submit the application to the Salt Lake Office. Otherwise, you may submit it to your reclamation specialist.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 1. Change in the size of the Permit Area? 65.7 acres Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease. |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 2. Is the application submitted as a result of a Division Order? DO # _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 4. Does application include operations in hydrologic basins other than as currently approved? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 5. Does application result from cancellation, reduction or increase of insurance or reclamation bond? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 6. Does the application require or include public notice/publication? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 7. Does the application require or include ownership, control, right-of-entry, or compliance information? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 9. Is the application submitted as a result of a Violation? NOV # _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 10. Is the application submitted as a result of other laws or regulations or policies? Explain: _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 11. Does the application affect the surface landowner or change the post mining land use? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2?) |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 13. Does the application require or include collection and reporting of any baseline information? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 15. Does application require or include soil removal, storage or placement? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 16. Does the application require or include vegetation monitoring, removal or revegetation activities? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 17. Does the application require or include construction, modification, or removal of surface facilities? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 18. Does the application require or include water monitoring, sediment or drainage control measures? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 19. Does the application require or include certified designs, maps, or calculations? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 20. Does the application require or include subsidence control or monitoring? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided for? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 23. Does the application affect permits issued by other agencies or permits issued to other entities? |

✓ Attach 4 complete redline copies of the application, along with 7 complete clean copies of the application.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein. (R645-301-123)

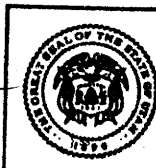
Charles A. Semborski

Charles A. Semborski - Geology/Permitting Supervisor **2-28-02**

Signed - Name - Position - Date

Subscribed and sworn to before me this 28th day of February, 2002.

Lori Ann Anderson
Notary Public
My Commission Expires: 12/22, 2005
Attest: STATE OF Utah
COUNTY OF Emery



LORI ANN ANDERSON
NOTARY PUBLIC • STATE of UTAH
31 NORTH MAIN
HUNTINGTON, UT 84528
COMM. EXP. 12-22-2005

Received by Oil, Gas & Mining

ASSIGNED TRACKING NUMBER

Application for Permit Processing

Detailed Schedule of Changes to the MRP

Title of Application: Revised Volume 11: North Rilda Area: Introduction, General Section ,
Engineering Section, Hydrologic Section, PacificCorp, Deer Creek Mine, C/015/018: IB01K, Emery County,
Utah

Permit Number: C/015/018

Mine: DEER CREEK

Permittee: PACIFICORP

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED

<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Replace Introduction Section (text)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Replace General Section R645-301-100 (text)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Replace Engineering Section R645-301-500 (text)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Replace Engineering Section R645-301-500: Appendix 1
			Map DU1688E (revised map includes two sheets)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Replace Hydrology Section R645-301-700 (text)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Map Section, Map HM-9
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Map Section, Map HM-10
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Volume 11 North Rilda Canyon Area, Map Section, Map HM-11
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?